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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/955,969

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Yoshitsugu Hama

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05/17/2004

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EXAMINER

MENON, KRISHNAN S

ART UNIT

PAPER NUMBER

1723

DATE MAILED: 05/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/955,969

Applicant(s)

HAMA ET AL.

Examiner

Krishnan S Menon

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,6-14 and 17-19 is/are pending in the application.
- 4a) Of the above claim(s) 9-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-8,12-14 and 17-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claims 1-3,6-8, 12-14 and 17-19 are pending in the RCE. Claims 9-11 are withdrawn from consideration and claims 4,5,15 and 16 are cancelled.

Specification

Applicant has incorporated the Japanese application 2000-289,409 by reference on page 5 last line.

The incorporation of essential material in the specification by reference to a foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See *In re Hawkins*, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-3,6,7, 12-14, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goettmann et al (US 5,133,835).

Goettmann et al (US 5,133,835) teaches a support comprising a non-woven fabric with a main fiber and a binder fiber formed of synthetic resin (abstract), manufactured by paper making process (col 1 lines 5-12) and then heating and pressing (col 2 lines 55-61 – calendered), having tensile strength ratio between the machine and transverse direction within 2:1 to 1:1, and air permeability of 0.5-7 cc/cm²/sec (see table II) as in claim 1, and also calendered as in claim 12.

Re the limitations of porosity of 5 to 15 microns in claims 1 and 12: Goettmann et al (US 5,133,835) teaches a support with two different fibers and manufactured by the paper making process and heat-pressed. Goettmann et al (US 5,133,835) teaches all parameters of the non-woven such as material, fiber decitex, tensile strengths, and air permeability (abstract, tables) as taught by the instant application, except the porosity of the membrane as being between 5 and 15 microns. It would be obvious to one of ordinary skill in the art at the time of invention that since the non-woven as taught by Goettmann et al (US 5,133,835) has materials and properties similar to what is disclosed by the instant application, and is made by similar methods, the pore size also would be inherently similar. Applicant discloses the air permeabilities and pore sizes as related for the intended property – penetration of casting solution [eg., "On the contrary, when the semipermeable membrane support has an air permeability of not less than 7.0 cc/cm²/sec, or has an average pore size of not less than 15 μ m, the penetration of the

Art Unit: 1723

(polymer) casting solution into the semipermeable membrane support is too much and thereby, the problem of partial over-penetration of the (polymer) casting solution to the back surface is likely to come up" – see specification page 4, first paragraph]. Where applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. 102 and 103, expressed as a 102/103 rejection. "There is nothing inconsistent in concurrent rejections for obviousness under 35 U.S.C. 103 and for anticipation under 35 U.S.C. 102." *In re Best*, 562 F.2d 1252, 1255 n.4, 195 USPQ 430, 433 n.4 (CCPA 1977). This same rationale should also apply to product, apparatus, and process claims claimed in terms of function, property or characteristic. Therefore, a 35 U.S.C. 102/103 rejection is appropriate for these types of claims as well as for composition claims.

The main fiber is polyester (col 2 lines 25-30) with fineness is between 0.6 and 8.9 decitex (tables); (1 denier = 1 gm for 9000m fiber as opposed to 1 decitex = 1g for 10,000 m.) as in instant claims 2, 13, 3 and 14;. The support would be capable of preventing bending in the width direction during manufacture of the semipermeable membrane, since it meets the tensile strength requirements (table III) as in instant claim 6 and 17. Tensile ratio is between 1.5:1 and 1:1 as in claim 7 and 18(table II).

Goettmann et al (US 5,133,835) teaches a support made by heating and pressing after paper making (col 2 lines 13-25) with tensile strength ratio 1:1 (table II).

Art Unit: 1723

2. Claims 1-3, 6-8, 12-14 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinjou et al (US 4,795,559).

Shinjou (559) teaches a semipermeable membrane support comprising a non-woven fabric of a single layer with a main fiber and a binder fiber formed of synthetic resin, manufactured by paper making process and then heating and pressing, having tensile strength ratio between the machine and transverse direction as equal (abstract, col 5 lines 55-63), and air permeability of 0.5-7 cc/cm²/sec (abstract) as in claim 1, and also calendered as in claim 12. Re the newly added limitation of "of a single layer", it may be noted that Shinju (559) teaches "comprising a non-woven fabric of a single layer including main fiber and binder fiber" because each of the low density and the high density layers of Shinju independently have that structure (see col 3 lines 11-36 for the low density layer; example 1 lines 5-15 for the high density layer), and the claim language does not exclude a non-woven fabric of a single layer from having another layer laminated to it.

Re the limitations of porosity of 5 to 15 microns in claims 1 and 12: Shinjou (559) teaches a semipermeable membrane support with two different fibers and manufactured by the paper making process and heat-pressed. Shinjou (559) teaches all parameters of the non-woven such as material, fiber decitex, tensile strengths, and air permeability (abstract, col 5 lines 55-63, tables) as taught by the instant application, except the porosity of the membrane as being between 5 and 15 microns. It would be obvious to one of ordinary skill in the art at the time of invention that since the non-woven as taught

Art Unit: 1723

by Shinjou (559) has materials and properties similar to what is disclosed by the instant application, and is made by similar methods, the pore size also would be similar.

The fiber fineness is between 0.6 and 8.9 decitex (abstract, col 3 lines 37-43, examples); (1 denier = 1 gm for 9000m fiber as opposed to 1 decitex = 1g for 10,000 m.) as in instant claims 2, 13, 3 and 14;. The support would be capable of preventing bending in the width direction during manufacture of the semipermeable membrane, since it meets the tensile strength requirements (col 5 lines 55-63) as in instant claim 6 and 17. Tensile ratio is 1:1 as in claim 7 and 18(col 5 lines 55-63). Shinjou (559) teaches a semipermeable membrane support made by heating and pressing after paper making (abstract, col 3 lines 37-43) with tensile strength ratio 1:1 (col 5 lines 55-63) having the membrane-coated front surface rougher than the rear surface as in instant claim 8 and 19.

Response to Arguments

Applicant's arguments, see response, filed 4/6/04, with respect to the rejection(s) of claim(s) 1-3, 6, 7, 12-14, 17 and 18 under 35 USC 103(a) have been fully considered and are not persuasive. Applicants' claim language reads "... support comprising a non-woven fabric of a single layer including main fiber and binder fiber ...". Shinju ref teaches a non-woven fabric having two layers laminated together, with each layer having main fiber and binder fiber (see rejection). The open-ended claim language does not exclude other layers, if there is 'a [single] layer having main fiber and binder fiber'. The reference has a support comprising a non-woven fabric of a single layer

including a main fiber and a binder fiber in the high density layer (or in the low density layer); having another layer laminated to it does not make the reference not anticipating the limitation of the claim.

Conclusion

This action is in response to RCE filed 4/29/04, and is made non-final.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Krishnan Menon
Patent Examiner


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